

## CLAIMS

1. A plastic lab bottle created by an injection blow molding process comprising the steps of:  
injecting plastic into a first mold from the plastic lab bottle bottom to form a preformed  
5 plastic lab bottle, wherein the preformed plastic lab bottle has an annular protrusion around  
the shoulder arc and annular protrusion around the base arc;  
blowing the preformed plastic lab bottle into a second mold by injecting air into the  
preformed plastic lab bottle through the mouth opening of the preformed plastic lab bottle  
forming a finished plastic container, the annular protrusion around the shoulder arc in the  
10 preformed plastic lab bottle forming a thicker wall at the shoulder arc, the annular protrusion  
around the base arc in the preformed plastic lab bottle forming a thicker wall at the base arc;  
ejecting the finished plastic container from the second mold;  
providing a plastic cap for closing the bottle, the plastic cap tethered by a tether to a tether  
ring that can fit over the neck ring of the bottle, wherein the tether is calibrated in stiffness  
15 allowing an open cap to rest in open extended position suspended in midair;  
pulling the tether ring over the neck ring of the bottle.
2. The plastic lab bottle of claim 1, wherein the wall of the polycarbonate bottle is not uniform  
and ranges in thickness from 7 mm at the side wall to 9 mm at the neck arc and base arc  
areas.
- 20 3. The plastic lab bottle of claim 1, wherein the band has indentation grooves allowing  
calibration of stiffness.
4. The plastic lab bottle of claim 1, wherein band stiffness is matched to cap weight allowing an  
open cap to rest in open extended position suspended in midair.
5. A method of making a plastic lab bottle by an injection blow molding process comprising the  
25 steps of:  
injecting plastic into a first mold from the plastic lab bottle bottom to form a preformed  
plastic lab bottle, wherein the preformed plastic lab bottle has an annular protrusion around  
the shoulder arc and annular protrusion around the base arc;  
blowing the preformed plastic lab bottle into a second mold by injecting air into the  
30 preformed plastic lab bottle through the mouth opening of the preformed plastic lab bottle  
forming a finished plastic container, the annular protrusion around the shoulder arc in the

preformed plastic lab bottle forming a thicker wall at the shoulder arc, the annular protrusion around the base arc in the preformed plastic lab bottle forming a thicker wall at the base arc; ejecting the finished plastic container from the second mold;

providing a plastic cap for closing the bottle, the plastic cap tethered by a tether to a tether ring that can fit over the neck ring of the bottle, wherein the tether is calibrated in stiffness allowing an open cap to rest in open extended position suspended in midair; pulling the tether ring over the neck ring of the bottle.

6. The plastic lab bottle of claim 1, wherein the wall of the polycarbonate bottle is not uniform and ranges in thickness from 7 mm at the side wall to 9 mm at the shoulder arc and base arc areas.

7. The plastic lab bottle of claim 1, wherein the band has indentation grooves allowing calibration of stiffness.

8. The plastic lab bottle of claim 1, wherein the wall of the polycarbonate bottle is not uniform and ranges in thickness from 7 mm at the side wall to 9 mm at the shoulder arc and base arc areas.

9. The plastic lab bottle of claim 1, wherein band stiffness is matched to cap weight allowing an open cap to rest in open extended position suspended in midair.

10. The method of making microbial culture in a plastic lab bottle comprising the steps of:

injecting plastic into a first mold from the plastic lab bottle bottom to form a preformed

plastic lab bottle, wherein the preformed plastic lab bottle has an annular protrusion around the shoulder arc and annular protrusion around the base arc;

blowing the preformed plastic lab bottle into a second mold by injecting air into the preformed plastic lab bottle through the mouth opening of the preformed plastic lab bottle

forming a finished plastic container, the annular protrusion around the shoulder arc in the

preformed plastic lab bottle forming a thicker wall at the shoulder arc, the annular protrusion around the base arc in the preformed plastic lab bottle forming a thicker wall at the base arc; ejecting the finished plastic container from the second mold;

providing a plastic cap for closing the bottle, the plastic cap tethered by a tether to a tether ring that can fit over the neck ring of the bottle,

pulling the tether ring over the neck ring of the bottle;

dispensing microbial culture into the bottle through the opening; sealing the microbial culture inside the bottle by closing the cap; sterilizing the culture by autoclaving the bottle with contents closed inside; keeping the fluid closed within the bottle; and optionally places a shrink wrap seal over the shrink wrap neck ring;

opening the cap so that the cap hangs from the tether; dispensing microbes into the bottle; closing the bottle cap on the bottle.

11. The method of Claim 10 further including the step of shipping the bottle to a second location.

12. The method of Claim 10, wherein the wall of the polycarbonate bottle is not uniform and ranges in thickness from 7 mm at the side wall to 9 mm at the shoulder arc and base arc areas.

13. The method of Claim 10, wherein the band has indentation grooves allowing calibration of stiffness.

14. The method of Claim 10, wherein band stiffness is matched to cap weight allowing an open cap to rest in open extended position suspended in midair.

15. The method of Claim 10 further including the step of shaking the bottle into a device that agitates the bottle and contents for mixing.

16. The method of Claim 10, wherein the wall of the bottle is made of a plastic other than polycarbonate.

17. A plastic lab bottle created by an injection blow molding process comprising the steps of:

injecting plastic into a first mold from the plastic lab bottle bottom to form a preformed plastic lab bottle, wherein the preformed plastic lab bottle has an annular protrusion around the neck arc and annular protrusion around the base arc;

blowing the preformed plastic lab bottle into a second mold by injecting air into the preformed plastic lab bottle through the mouth opening of the preformed plastic lab bottle

forming a finished plastic container, the annular protrusion around the neck arc in the preformed plastic lab bottle forming a thicker wall at the neck arc, the annular protrusion around the base arc in the preformed plastic lab bottle forming a thicker wall at the base arc; ejecting the finished plastic container from the second mold;

providing a plastic cap for closing the bottle, the plastic cap tethered by a tether to a tether ring that can fit over the neck ring of the bottle, wherein the tether is calibrated in stiffness allowing an open cap to rest in open extended position suspended in midair;

pulling the tether ring over the neck ring of the bottle.

18. The plastic lab bottle of claim 1, wherein the wall of the polycarbonate bottle is not uniform and ranges in thickness from 7 mm at the side wall to 9 mm at the neck arc and base arc areas.

5 19. The plastic lab bottle of claim 1, wherein the band has indentation grooves allowing calibration of stiffness.

20. The plastic lab bottle of claim 1, wherein band stiffness is matched to cap weight allowing an open cap to rest in open extended position suspended in midair.